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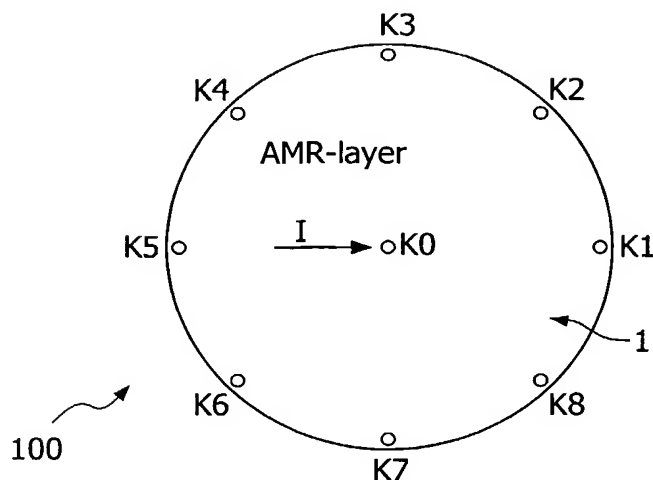


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(57) **Abstract:** In order to provide a magnetore-sistive angle sensor (100) comprising a sensor de-vice for detecting an angle (α) of an external mag-netic field relative to a reference axis of the sen-sor device, which allows measurement of the an-gle (α) without the measurement result being af-fected by manufacturing errors, it is proposed that the sensor device comprises a flat AMR layer (14, 15) with one electrical contact (K_0) for applying a current (I) and a plurality of electrical contacts (K_i) for measuring a flow of current through the AMR layer (14,15).